history of mathematical societies, journals, congresses; and some particular historic facts elucidating the appearance and the history of some mathematical concepts and theorems. There is a list of abbreviations and a bibliography of 285 authors and about 700 items.

In the monograph the author gives a great amount of historical material on different subjects in the theory of differential equations. He calls attention to many misrepresentations in the history of mathematics, especially in the names of theorems.

As a weakness one can regard the fact that the author does not point out when the consideration is going on in the real and when in the complex domain. Sometimes it might have been more convenient to give precise mathematical statements instead of free descriptions.

On the whole the monograph provides much interesting material for a historian of mathematics as well as for a mathematician working with differential equations.

LES NOUVELLES PENSÉES DE GALILEE. Par Marin Mersenne. Edition critique avec introduction et notes. Par Pierre Costabel et Michel-Paul Lerner. Avant-propos de Bernard Rochot. Paris (Librairie Philosophique J. Vrin). 1973. Vol. I, 130 pp.; Vol. II (Notes et Index), pp. 131-319.

Reviewed by James MacLachlan
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Galileo's *Two New Sciences* (1638) had been in print for only a few months when there appeared in Paris a briefer work titled *Les nouvelles pensees de Galilée*. Although the title-page bore the inscription "Traduit d'Italien en François" it was by no means a genuine translation. Rather, the French book was a selection and compression of what must have appeared to the "translator" to be the major features of Galileo's final book. Indeed, the preface admits that it does not contain Galileo's whole discourse "de mot à mot", though it does provide the substance of it.

Although the author of the French work is nowhere mentioned by name, internal evidence and other references leave no doubt--it was the French Minim priest, Marin Mersenne (1588-1648), scientist and popularizer. Since Galileo's own book in Italian and Latin was available to scholars, there is a strong possibility that Mersenne intended *Les nouvelles pensées* for readers more technical than scholarly. Notice that the preface concludes with the remark that the book is "si court & se petit que chacun le peut porter aux champs pour se recreer."

This book is important for studies of Galileo because it provides an example of the contemporary reception that was accorded to his work on physics. In this edition, four pages of the original text are printed on each page, so that the work itself occupies 72 pages of the total.

Editors Costabel and Lerner have made good use of the other 250 pages, providing modern readers with what is in many respects a model for critical editions of this kind of work. A foreword by the late Bernard Rochot, expert on Mersenne, is followed by a very useful 35-page introduction. Here we get a glimpse into the production and dissemination of both works (of Galileo and Mersenne), and learn that Mersenne's promptness in publication was assisted by his having seen part of Galileo's manuscript on its way to Leiden to be printed. The first volume concludes with a full table of contents for *Les nouvelles pensées,* something Mersenne had neglected to provide.

Readers are well served by having the critical notes in a second volume, so that notes and text can be related simply by having both volumes open to the corresponding pages. The notes are followed by a full author index and a brief subject index. In addition, more than four pages are devoted to an index to Mersenne's vocabulary--a guide to the contexts of the major technical terms (in science and philosophy) that he used.

The critical notes are very helpful in indicating the passages in Galileo's *Two New Sciences* that Mersenne treats on each page. In particular, the editors remark at every point where they find "le témoignage concret des différences d'intérêt, des divergences et des incompréhensions de Mersenne" (p. 40). To show the places where Mersenne is less than faithful to Galileo is useful, but I fear that the editors have been too ready to attribute differences to Mersenne's inability to understand Galileo. Mersenne had a view of science and a research program of his own. He differed considerably from Galileo, particularly in being much more empirically oriented. That this bias is strong in *Les nouvelles pensées* does not necessarily mean that Mersenne did not understand Galileo. It is more difficult than seems to be evident from these notes to distinguish Mersenne's disagreements from his incomprehensions.

Of course there is evidence (at the very least) that Mersenne did not take the trouble to analyse Galileo's theorems with care. For example, Galileo's fundamental treatment of accelerated motion in the first two theorems of the Third Day are much more rigorous than his first published discussion in the *Dialogue on the Two Chief World Systems* (1632). Yet, at this point in *Les nouvelles pensées* Mersenne referred readers to his own treatment in his *Harmonie universelle* (1637) which had been derived from Galileo's discussion in the *Dialogue*. Although this deprived readers of knowledge of Galileo's superior proofs, it is not, by itself, sufficient to demonstrate Mersenne's incomprehension. Nevertheless, it does show that Mersenne was more interested in results than in proofs.

With that particular caution, I recommend this critical edition to anyone interested in Galileo, Mersenne, or mathematics and physics in the seventeenth century.